CW&HW#56: Dilations with center (0,0)

Geometry

Due: Thursday, December 10th

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP:\_\_\_\_\_

FAILURE TO WRITE IN COMPELTE SENTENCES OR SHOW ALL WORK WILL RESULT IN LASALLE.

**Part A:** Plot the points from the column “Pre-Image.” Dilate the points by the given scale factor with center (0, 0) and plot and label the images. Write the coordinates of the images in the column, “Image.”

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Pre-Image** | **Scale Factor** | **Image** |
| 1 | A(2, 2), B(3, 4), C(4, 2) | 2 |  |
| 2 | D(-4, 1), E(-3, 2), F(-1, 1) | 2 |  |
| 3 | G(1, -1), H(1, -3), I(3, -3) | 3 |  |
| 4 | J(-8, 8), K(-8, 10), L(-4, 10), M(-4, 8) |  |  |
| 5 | N(-8, -8), O(-8, -4), P(-4, -4), Q(-4, -8) |  |  |



**Part B:** Use the graph below to describe the dilations that map the following pre-images to their images:

6. Triangle ABC to Triangle A’B’C’ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Triangle DEF to Triangle D’E’F’\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Quadrilateral GHIJ to Quadrilateral G’H’I’J’\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. Quadrilateral KLMN to Quadrilateral K’L’M’N’ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



**Part C:** Answer the following questions.

10. Explain what happens to a shape when it is dilated by a scale factor that is less than one.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. Describe the relationship between the sides of a shape and its image after a dilation of scale factor 2.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. Explain why a dilation is not a rigid motion. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13. In problem 4, explain how quadrilateral JKLM is related to quadrilateral J’K’L’M’. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Part D:** Identify the transformation that maps each given pre-image to its image. BE SPECIFIC.

|  |  |
| --- | --- |
| 14. |  |
| 15. |
| 16. |
| 17. |

**Part E:** Use the graph below to perform the dilation.

18. Plot the pre-image: A(0,1), B(1,1), and C(-1,-1).

19. Dilate by a scale factor 4 with center (0,0).



**Part F[lashback!]:** Show all work!

|  |  |
| --- | --- |
| 20. Solve for x.  Macintosh HD:Users:rmitrovich:Desktop:Screen Shot 2015-12-06 at 9.25.19 PM.png | 21. Solve for x.  Macintosh HD:Users:rmitrovich:Desktop:Screen Shot 2015-12-06 at 9.25.23 PM.png |
| 22. Solve for x.  Macintosh HD:Users:rmitrovich:Desktop:Screen Shot 2015-12-06 at 9.25.27 PM.png | 23. Solve for x.  Macintosh HD:Users:rmitrovich:Desktop:Screen Shot 2015-12-06 at 9.25.33 PM.png |
| 24. Solve.  Macintosh HD:Users:rmitrovich:Desktop:Screen Shot 2015-12-06 at 9.26.14 PM.png | 25. Solve.  Macintosh HD:Users:rmitrovich:Desktop:Screen Shot 2015-12-06 at 9.26.19 PM.png |
| 26. Solve for the circumference and area.  Macintosh HD:Users:rmitrovich:Desktop:Screen Shot 2015-12-06 at 9.27.18 PM.png | 27. Solve for the circumference and area.  Macintosh HD:Users:rmitrovich:Desktop:Screen Shot 2015-12-06 at 9.27.32 PM.png |